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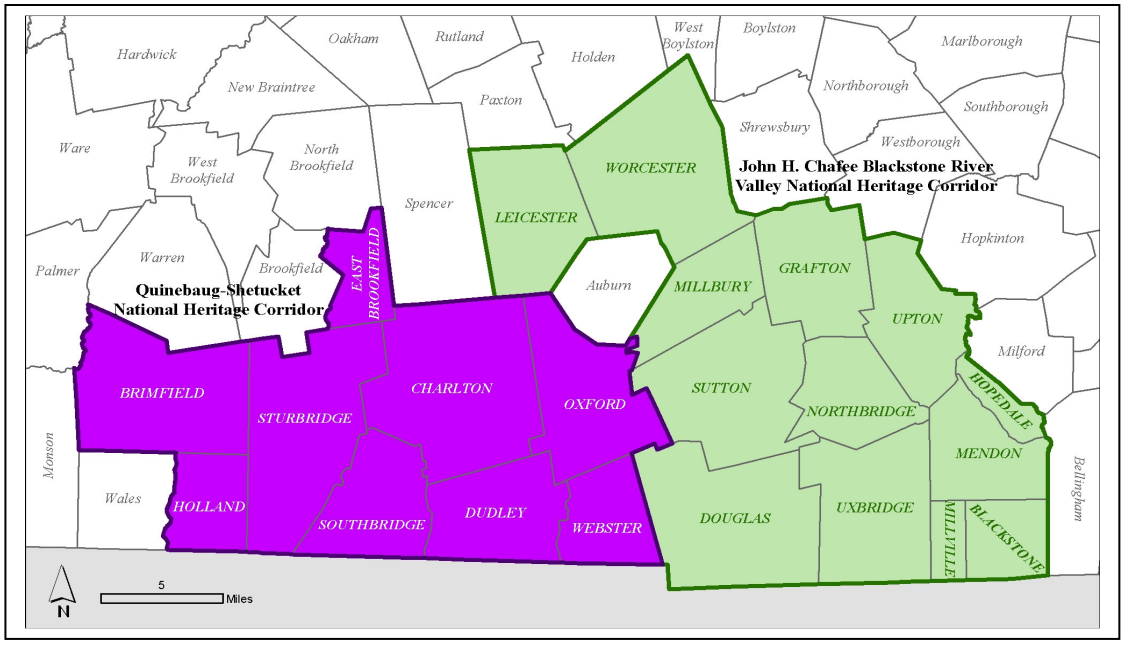
Massachusetts

Heritage Landscape Inventory Program

# Regional Historic Context

## Quinebaug-Shetucket and John H. Chafee Blackstone River Valley National Heritage Corridors

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*Douglas Camp Meeting*

*Farm in Dudley*

***The Warren Block, Grafton***

# Heritage Landscape Inventory
# Regional Historic Context
# Quinebaug-Shetucket and
# John H. Chafee Blackstone River Valley
# National Heritage Corridors

*Susan W. Frechette*

*June 30, 2006*

## *I Introduction*

Through its Heritage Landscape Inventory program, the Massachusetts Department of Conservation and Recreation (DCR) is initiating an inventory of historic and cultural landscapes in the south-central region of Massachusetts. Working in partnership with the John H. Chafee Blackstone River Valley National Heritage Corridor and the Quinebaug-Shetucket Rivers Valley National Heritage Corridor, the DCR seeks to identify significant landscapes in the 22 Massachusetts communities located within these two nationally designated areas. The study area stretches from the Blackstone River east to the towns of Brimfield and Holland to the west, and from the city of Worcester south to Massachusetts state border with Connecticut. Phase 1 of the Heritage Landscape Inventory in the Blackstone and Quinebaug-Shetucket Heritage Corridors involved the preparation of a Historic Context, to provide an understanding of the region's landscape development over time and to help guide subsequent phases of the project.

Since Congress established the Blackstone River Valley National Heritage Corridor in 1986, much effort has gone into evaluating, planning, and developing the story of the Blackstone River Valley and its historic, cultural and natural resources. The Blackstone River Valley is the birthplace of the American Industrial Revolution, where farmers turned to factory work, and where the Blackstone River took center stage upon the completion of the Blackstone Canal in 1828. Within the Blackstone River Valley three cultural landscape types have emerged as recurrent themes for the region: historic farms and hilltop villages, mill villages and company towns, and urban centers. These landscape types have captured many of the region's rich historic, cultural and natural resources, and tell the story of human experience in the Blackstone Valley from the time of early colonial settlement to the present day.

The Quinebaug-Shetucket Rivers Valley National Heritage Corridor was first authorized by Congress in 1994, with the member Massachusetts communities added in 1999. The relatively recent formation of this Heritage Corridor means there have been fewer opportunities to study and evaluate its historic, cultural and natural resources in a regional context. This Historic Context has identified similar cultural landscape themes in the Quinebaug-Shetucket Valley to that of the Blackstone Valley. Many communities in the Quinebaug-Shetucket Valley had parallel growth to that of the Blackstone Valley in agriculture, industry, transportation, settlement, and immigration.

The landscape features in both Heritage Corridors can be identified by several distinct categories: rural/scenic agricultural uplands including forests, meadows and fields and river valley watersheds including rivers, tributaries and wetlands. Rich agricultural soils in many communities made early agricultural efforts successful, and shaped the early economy and settlement patterns before the rise of industry. Hilltop market towns and the region's remaining rural agricultural landscapes, characterized by open fields and historic farm complexes, are reminders of that period.

The communities in the two Heritage Corridors owe much of their historic settlement patterns to the generous presence of water. The Blackstone River, with its headwaters in Worcester, is the defining physical presence of the eastern part of the region. Along its forty-five mile journey to

Narragansett Bay in Providence, Rhode Island, it passes through present day Millbury, Sutton, Grafton, Northbridge, Uxbridge, Millville and Blackstone. The Blackstone River's tributaries flow from all Blackstone Valley communities.

Farther to the west, the headwaters of the Quinebaug form in Brimfield and Wales, while the French River forms in Leicester. Both rivers eventually flow south to join the Shetucket in Connecticut and follow a course to the Thames River and Long Island Sound. The Quinebaug and French Rivers, along with their extensive networks of tributaries and wetlands, form a regional presence similar to that of the Blackstone. There are portions where the two rivers experience dramatic elevation changes, as does the Blackstone. The Quinebaug moves fastest through Sturbridge and Southbridge, slowing once it reaches the more gentle topography of Dudley. The upper reaches of the French River run fastest in north Oxford, slow through the rest of that town on the way to Webster, Dudley and thence to Connecticut.

These rivers, along with their tributaries, made possible the water-powered industry that influenced settlement, economy and population patterns for the region.

**Methodology**
Primary and secondary sources consulted for the Historic Context include numerous Blackstone Valley National Heritage Corridor reports, Massachusetts Historic Commission (MHC) regional and town reconnaissance survey files, maps, records of landscape architects active in the region during various periods, and numerous published books, papers and reports.

The Historic Context presents a broad overview of the region's transportation, population, settlement patterns, and economic trends, organized chronologically using time periods established by MHC's town and regional reconnaissance reports. The report is therefore organized by Contact/Plantation, Colonial, Federal, Early Industrial, Late Industrial, Early Modern, and Late Modern Periods. The trends are followed by a summary of the landscape types found in the region. Surviving examples of representative features for each period are identified. Future phases of the Heritage Landscape Inventory program's work in this region will expand upon the themes contained in this context as work is done with participating communities to identify, evaluate, and protect their heritage landscapes as part of larger planning efforts.

While this region is believed to have been a location of significant prehistoric activity, DCR opted to focus on the historic period for the purposes of this Historic Context. The decision to proceed in this manner was based upon logistical considerations and is not meant to be a reflection of the amount or the significance of prehistoric activity in this region. Prehistoric resources will be addressed in future Heritage Landscape Inventory work in this region.

## *II Contact Period(1500-1620)/ Plantation Period(1620-1675)*

The Contact and Plantation periods have been combined for the purpose of this report, as the European settlement activity in the Blackstone and Quinebaug-Shetucket Valleys occurred

relatively late in the Plantation period, and the use and development of the landscape remained essentially the same for much of these two periods.

During the Contact/Plantation period, Native Americans occupying the region were the Nipmuc, a subgroup of Southern New England Algonquians. The Nipmuc lived in small groups in semi-permanent villages, gathering wild food and growing crops in small fields located along riverbanks or open ponds. Their subsistence crops included corn, beans, pumpkins, tobacco, and squash. To supplement what they grew, they fished the abundant lakes and rivers, or hunted game in upland areas. In winter, they removed to more sheltered locations.

The earliest European contact with Native Americans in this region is not well documented for this period, but is believed to be in the 1620's. Fur traders and Christian missionaries were present in the region by the time the General Court granted several plantations to settlers in the early 1660's. By 1674, there were seven "praying villages" in the region. These praying villages were communities established by white settlers for Indians converted to Christianity. One of the largest praying villages, laid out by Reverend John Eliot in 1660, was Hassanamesit, located in present-day Grafton. Another was located in Webster on the shores of Lake Chargoggagoggmanchaugagogghaubunagungmaugg, with the praying village of the same name.

**Transportation**

The Nipmuc had developed an extensive network of trails throughout the region, particularly in the gentle lowlands of the Blackstone Valley. A major trail ran the length of the Blackstone River drainage; Route 122 is a contemporary road which parallels this route. Other primary trails followed generally east- to southwesterly routes across the region, with lesser trails connecting north to south. These trails were used extensively by early colonial travelers to traverse the landscape between the Blackstone and Connecticut River Valleys. One route – the Bay Path – connected Boston to Springfield thorough Quinsigamond Plantation (Worcester).

While the Nipmuc are believed to have used the region's larger rivers as a means of transportation, there is little indication that colonial settlers used them in this manner.

**Population**

The Nipmuc were organized in subgroups along the region's river drainage systems. Major subgroups included the Quaboag, Quinsigamond, Pegans and the Nipnet. The Quaboag lived in the Thames River area of the Brookfields, the Quinsigamond occupied the area of present day Worcester, and the Pegans were found in the Dudley/Webster/Douglas/Oxford area. In the Blackstone Valley resided the Nipnet.

The arrival of the first white Europeans forever altered the Native American way of life. Early colonial settlers to the Blackstone/Quinebaug-Shetucket region were generally of English extraction, native-born from either the Springfield or Boston area. Colonist-introduced contagious diseases, in particular the epidemics of 1616-17 and 1633-34, are believed to have greatly affected the Native American populations. Further population decline was the result of intertribal wars and conflicts with English settlers.

**Settlement**
During the period leading up to King Philip's War (1675-1676), Nipmuc populations were decimated by disease and conflict, and survivors were dislocated by colonial settlement. In some instances, the Nipmuc sold land to colonists, or joined one of the Christian praying villages. All these forces combined to open up large portions of southern central Massachusetts lands for colonial settlement.

Colonists approached the region almost simultaneously from three directions. In 1660 the General Court granted the Quaboag Plantation (later Brookfield/East Brookfield) to John Pynchon of Agawam, who was backed by Ipswich investors. Petitioners from Braintree and Weymouth were granted the Quinshepaug Plantation (later Mendon) in 1667, followed shortly by the Quinsigamond Plantation (later Worcester) in 1668.

Colonists chose to settle hilltop areas first, where the soils were best for agriculture. Settlement patterns were based on a medieval English model of centralized house lots with outlying land held in common for the pasturage of grazing animals. Each community established churches, burial grounds and schools located around a central common used for military training or grazing. House lots ranged in size from 20 to 50 acres. In addition to house lots, settlers received land grants of upland, meadows, pasture and woodlots. Settlers established grist and sawmills to process grains and lumber. They built garrisons, fortified houses, or separate forts.

By 1675, Mendon had 38 families, Quaboag had 20 and Quinsigamond had six or seven. Nearby, the praying village of Hassanamesit (Grafton) included 12 families of Native Americans. These growing communities, along with colonial settlement taking hold in other areas of the Blackstone and Quinebaug-Shetucket region by the end of the period, sparked Native unrest that led to the death and destruction of King Philip's War. Mendon and other early plantations established during the period were destroyed and temporarily abandoned during the conflict.

**Economy**
Self-sufficient farming - agriculture and animal husbandry - was the basis for the region's economy. Colonists raised cattle, hogs, and poultry. Oxen were used primarily for farm work; the common pasturage practices of the period meant little attention was given to breeding stock. Sheep were initially scarce during the period. Farmers grew grains such as rye, and wheat, as well as food crops, including onions, parsnips, turnips and cabbage. Flax was grown for its fiber to make cloth, and to trade for other staples. Colonists adapted pumpkins, squash and corn from the Nipmuc, and in some cases took over their agricultural fields. Migrating birds and fish, as well as wild fruits and nuts were taken to supplement farm-grown food.

The region's fast-moving streams and rivers encouraged the early development of saw and gristmills; some settlers with these skills were offered land grants in exchange for settling in plantations with these needs.

Mineral extraction was also an early activity. There were several steatite (soapstone) quarries; a graphite mine opened in 1658 in what would become Sturbridge and operated intermittently until1910.

**Landscape Features**

At the time of European settlement, more than 90% of the landscape in Central Massachusetts was forested. The tree canopy included maple, ash, oak, chestnut, hickory and beech, as well as hemlock and white pine. There were some open fields, both natural and man-made. The region included a network of rivers and streams, wetlands, lakes, and ponds that supported a vast array of fish, shellfish, mammals, amphibians and birds. Many of the rivers and streams in the region were small, fast-moving and unnavigable by anything other than a small boat.

Numerous Native American place names are perhaps the most enduring features remaining from the period. They include region's largest lake, located in present day Webster and called Chargoggagoggmanchaugagogghaubunagungmaugg (an important site for the Pegans), Podunk Road in East Brookfield, Lake Quinsigamond and Quinsigamond Village in Worcester, and the Quinebaug River. The Sturbridge graphite mine, used by Native Americans before its purchase by colonists, still goes by the name Tantiusques, a Nipmuc word meaning "to a black deposit between two hills."[1]

## *III Colonial Period (1675-1775)*

In the years between King Philip's War and the Revolutionary War, towns with small nuclear villages and large rural agricultural homesteads developed in the Blackstone and Quinebaug-Shetucket Valleys. Agriculture and animal husbandry remained the principal occupation of residents, supplemented by small scale saw and gristmill operations, some tanning, shoe manufacture, and mining operations. Transportation between Boston, Worcester, Hartford, Springfield and Providence improved but overland travel remained extremely slow and arduous. A lessening of conflicts with Native Americans after the Peace of Utrecht in 1713 led to a period of growth and town expansion within the region. Patterns of settlement altered from the previous period as town formation led to new models of land ownership and governance.

**Transportation**

Many Native American trails were continued in use, and were widened as cart paths. Overland travel remained very difficult during the period, even as transportation routes were improved or developed. The Bay Path, a Native American Trail from Springfield to the Massachusetts Bay followed a route through Grafton, Sutton, Oxford, Charlton, Sturbridge, and Brimfield. By 1720 it was called the Boston Post Road; today it survives as State Route 20. In Charlton, a portion of the old Bay Path still exists.

The Middle Route passed through Mendon, Uxbridge, and Douglas, later to become the Boston-Hartford Turnpike. The Connecticut Road extended from Worcester south through Oxford and Dudley, and the Worcester-Providence Post Road, also called Mendon Road, passed through Grafton, Upton and Mendon.

As towns began to develop in the region, town meetinghouse locations influenced road layouts. Radial local roads issued from meetinghouses to outlying farms, for colonial laws required Sunday attendance at church. Extant examples of radial road layouts include Holland center and the Old Common in Douglas. Mendon's 1769 second meetinghouse (in present-day Millville), known as the Chestnut Hill Meetinghouse, is one of the best surviving examples of a meetinghouse from the period.

In Worcester and Oxford surveyors laid out unusually wide, straight central roadway axes in the center of town, each in anticipation of becoming the county seat. Oxford ultimately rejected the county seat status, fearing the effect an influx of outsiders would have on the character of the town. Oxford subsequently added a traditional common for community activities. Today, Oxford's straight central road still exists as Route 12 through the center of town.

Worcester was located at the nexus of a network of Native American trails that were further developed and used by colonial settlers. As early as 1700, the town was a principal stopping-off point between Boston and Hartford. Worcester's location made it a natural choice to be the county seat. Following that designation in 1731, the network of roads from the hinterlands to Worcester developed as commerce, court activities, fairs, and industry brought people there for trade and entertainment.

**Population**

Early colonial populations were sporadic, due to frequent conflicts with Native Americans. King Philip's War (1675-1677) destroyed many early settlements and resulted in their periodic abandonment. Mendon, the first settlement in the Massachusetts Bay Colony attacked during King Philip's War, was burned to the ground but re-established in 1679. Once a measure of safety was assured, the early towns saw their populations rebound and then increase, primarily through migration to the area of native-born residents of Middlesex County in Massachusetts and northern Rhode Island. Continued migration into the region, along with healthy natural population increases, contributed to a high rate of population growth during the period.

The Great Awakening in the 1730's brought about a schism in the Congregational Church, leading to the formation of new churches. New Light Separatists established churches in Sturbridge and Sutton. Baptists churches were established in Sutton (1735), Leicester and South Brimfield. Later in the period, Baptist societies were formed in Upton, Charlton, and Grafton. The Quakers arrived in 1729 near Mendon center. They created a second community in Mendon's South Parish (later Millville) in 1729. Quakers also settled in Leicester, Upton, Northbridge and Uxbridge.

By 1687, a group of 52 French Huguenots had settled in Oxford. The colony grew as the years passed, but local rumors and the events of Johnson's Massacre (a conflict between Oxford colonists and Native Americans in August 1696) caused them to abandon the settlement in 1696. The Huguenots returned in 1699, but left again permanently in 1704, prompted by hostilities with Native Americans during Queen Anne's War (1702-1713). The Huguenot land was resettled by English families in 1720.

Worcester's selection as the shire town in 1731 brought rapid growth to that town during the period. Taverns, inns and a service economy quickly developed to host the attendees at court meetings, fairs, horse races and market days. The cosmopolitan atmosphere contributed to the development of the American Political Society in 1773, whose members soon aligned with the patriot cause in Boston.

By 1765, Sutton was the most populous town in the region, due to its proximity to multiple transportation routes and its successful agriculture and mill operations along Singletary Brook (later Millbury).

**Settlement**
Resettlement was slow and sporadic in the years immediately following King Philip's War. Towns were generally granted by the General Court to petitioners in large, eight mile square blocks, including Worcester (1684), Leicester (1713) and Sutton (1714). Oxford (1682) was 12 by 9 miles. At the same time, Mendon had land added to its territory in 1692. Individual lot division remained large: most were 30-50 acres in size. Grafton incorporated in 1735.

Towns built meetinghouses, and set aside land for burial yards and training grounds. In some cases a tavern was built. Oxford had a meetinghouse, a burying ground, a training field, and a school on its common (now known as Old Common) by 1739.

As the period wore on and town populations increased, the distances to central meetinghouses became a subject of debate. Some towns relocated their meetinghouses, including Upton and Oxford. Other towns 'hived' creating new towns; Uxbridge hived from western Mendon in 1727, Charlton from Oxford in 1754 (incorporated as a town 1775), and Northbridge from Uxbridge in 1772. These new towns usually had to purchase property to create a town common. Charlton purchased an acre; the average size was seven acres.

Still other towns created parishes or precincts, reluctant to lose the lands and populations associated with hiving. Ultimately, the parishes prevailed and new towns were formed later in the period. Examples include Millbury (Second Sutton 1742), Spencer (Second Leicester 1744), Blackstone/Millville (South Mendon 1766), and Holland (South Brimfield 1762).

In 1681, a Nipmuc Reservation was established in Dudley (Webster 1832), but later apparently abandoned. In 1728, the General Court set aside four acres for a Nipmuc Reservation at Hassanamesit Plantation, the site of the former praying village in Grafton. The Hassanamisco Reservation remains in existence today on Brigham Hill in Grafton.

Survivals from this period include the 1769 Chestnut Hill Meetinghouse in Millville, the Hassanamisco Reservation, and numerous burial grounds, including some for Native Americans in Grafton, Holland, Charlton and East Brookfield.

**Economy**
The region supported agriculture and animal husbandry activities, although stony soils made farming difficult in some upland areas. Farm production included cattle, hogs, sheep, poultry, corn, fruit orchards, and a new crop: potatoes. Oats, timothy, clover, and English hay were grown as livestock fodder, while barley and hops were grown for beer. Flax was becoming an important crop for the production of linen clothing and linseed oil. As agricultural production and human populations increased, farmers sold their surplus crops or livestock. Outlets for excess agricultural products included the burgeoning trade with the West Indies, ships needing provisions, and new settlers starting up farms.

The region's many seasonal fast-running rivers and streams, especially the Blackstone, created ideal conditions for the development of water-powered mills, and the securing of water rights at the most promising locations was an early effort. Saw and gristmills appeared where the water fell swiftly. As the period progressed dams were constructed to further harness the power of water. By 1729, an iron works was operating on the Blackstone in the Whitinsville section of Northbridge. Several mill sites were established at Mendon (later Millville) at the Central Street crossing.

In Grafton, Douglas and other towns, industries that supported agricultural production included scythe and tool mills, forges, and coopers. In Sutton (later Millbury), a bloomery converted local ore to wrought iron in the 1740's. Later in the period, Asa and Elijah Waters purchased the refinery and converted it to an Armory that supplied the Continental Army with rifles during the Revolutionary War. Also in Grafton, the Willard family began a clock making business that would employ three generations. The house and shop survive at 11 Willard Street.

In South Uxbridge, in the village area known as Ironstone, brick making supplied building materials. The French Huguenots in Oxford produced chamois cloth, manufactured hats, and produced tar and pitch for export to London until they abandoned their settlement following King Philip's War.

In Worcester, agriculture remained the leading industry. As the regional economy began to develop a focus there, a growing number of small shops produced clocks, pottery, rope, watches, shoes, hats, hand cards, hand woven cloth and carpets.

**Landscape Features**

Village settlement patterns took on a distinctly different character in the Colonial Period. Many new settlers chose to establish a town common on a rise or hill in the geographic center of the town. There the meetinghouse - the social, religious and civic heart of the community - was constructed. The meetinghouse was usually accompanied by a burial ground, training grounds, stocks, and town pounds for stray animals. Some of the earliest towns settled on this format were Upton (1735), Grafton (1734), Uxbridge (1737), Sutton (1714) and New Sherborn (now Douglas ca. 1715), Brimfield (1731), and Sturbridge (1738). Surviving examples include the Old Douglas Center cemetery (c.1746) and town common, the Charlton Center, Brimfield and Uxbridge town commons, and the Center Cemetery and Town Pound in the center of Sutton, c. 1719.

*Douglas Center Cemetery*

*Brimfield Town Common*

Outlying farms were established, with individual ownership of large tracts of land to support agricultural efforts. Farms were organized around a house, barn and outbuildings, woodlot, pastures and agricultural fields for hay and food crops. Surviving agricultural landscapes from the period include Waters Farm in Sutton (1757), the Capron/Voss Farm in Uxbridge (1768) and the Daniels Farm in Blackstone (ca. 1750).

The region's forests continued to supply timber for building materials, tools, shingles, firewood and charcoal or potash.

Potential historic archaeological sites include the original town center meetinghouse location established by the town of Holland in the vicinity of the junction of Stafford, Brimfield and East Brimfield Roads (circa 1763-1765), the Northbridge Meetinghouse site (1770) at Hill Street and Batcheller Road in Uxbridge and the French Huguenot Village in Oxford

## *IV Federal Period (1776-1830)*

The development of better overland and water transportation systems, coupled with the demands of coastal cities and export trade brought Central Massachusetts into the emerging national economy in the period following the Revolutionary War (1775-1783). For both the Blackstone and Quinebaug-Shetucket Valleys, there were greater market opportunities with Rhode Island than with Boston. The American Industrial Revolution was born on the Blackstone River, as Samuel Slater introduced the first successful water-powered textile mill in 1790. The Rhode Island system was used by many enterprises that were subsequently established in the region, and emphasized employing whole families, housing them in houses rather than boarding houses and establishing social institutions to support them. That system, along with the development of the Blackstone Canal in 1828, forever changed the region's economy, landscape and settlement patterns. Improved agricultural yields and an increase in manufactured products, both at the mill and at home, made their way out of the region in increasing volume along the canal and later, the railroads. Population increases sparked the creation of new towns, and immigrants arrived from Ireland and French Canada to work in the emerging industrial economy.

**Transportation**

The regional road network remained extremely poor. As a consequence, the seaport cities of Boston, Massachusetts and Providence, Rhode Island had difficulty conducting trade with inland areas. In the 1790's, Rhode Island merchant John Brown proposed building a canal along the Blackstone River to connect Worcester with Narragansett Bay at Providence. Construction was delayed for years by Boston legislators who feared losing Worcester trade business to Providence. In 1823, once the Erie Canal opened to great success, the Blackstone Canal's Worcester promoters successfully overcame the objections of Boston legislators.

Irish immigrant laborers, many of whom had built the Erie Canal, were hired to build the Blackstone Canal, towpath and associated structures using locally-quarried stone. Completed in October 1828, the canal and its towpath followed the Blackstone River's 438 foot descent forty five miles from Worcester to Providence. A series of 49 locks (32 in Massachusetts) allowed

ships to carry cargo from mills along the river between the two market centers. Initially a success, the enterprise soon struggled due to freezing weather, drought, economic downturns, and disputes between mill owners over water rights. Today, the only intact canal lock is in Millville. Smaller remnants of the system exist in almost every community along the river that hosted the canal.

Turnpikes also developed during the period, improving overland travel and establishing stronger regional connections. The Ninth Massachusetts Turnpike (later Hartford Avenue) opened in 1800 along a former Native American trail, and traveled east-west through Mendon, Uxbridge and Douglas to Hartford, Connecticut. The Douglas, Sutton and Oxford Turnpike opened in 1808. The Holland, Worcester Stafford Turnpike opened in 1810, traversing Worcester, Charlton, Sturbridge and Holland. In Charlton, the village of Northside evolved as the Rider Tavern (1799) and other establishments developed to serve travelers. In Sutton, the LaBaron Tavern (1794) on Boston Road served travelers as well. Along the Boston Post Road (Route 20), the town of Brimfield emerged as an important highway stop. Extant period buildings include the Chabot Bliss Tavern (1796) at 12 Main Street and Isaac Powers' Inn at 124 Brimfield-Palmer Road in West Brimfield. The Central Turnpike opened in 1824, crossing Upton, Northbridge, Sutton, Oxford, Webster, Douglas and Dudley.

The improvements to the regional road system during the period were substantial. For example, in 1813, there was no stage or mail route between Worcester and Providence. Between 1814 and 1819 the mail was carried once a week. By 1827 there were eighteen different stage lines running from Worcester, carrying an average of one hundred passengers a day.

**Population**

The period was one of generally gradual population increase, with a dramatic increase in Worcester due to the opening of the Blackstone Canal. The increasing population of native born residents and new arrivals from both Boston and the Connecticut Valley regions was augmented first by Irish and later, French Canadian immigration. Land use practices in Ireland and crop failures in both countries brought laborers willing to work in the emerging mill and construction trades to the region. Most new immigrants were Roman Catholic. In 1793, the population of Brookfield included mechanics, traders and professional gentlemen, indicating the stratification of classes was already underway.

Quaker, Baptist, and Unitarian denominations saw their numbers increase, ending the domination of Congregationalist faith. The Quakers expanded to Blackstone in 1812, locating a meetinghouse on Elm Street in East Blackstone. Unitarian Churches were established in Oxford (1785) and Mendon (1820). The first Episcopal churches came to Leicester (1823) and Sutton (1828). The Methodists arrived late in the period.

**Settlement**

In a repeat of hiving activities played out to the east during the previous period, Holland (formerly South Brimfield) established as an independent town in 1783, as a protracted dispute between the town's Baptist and Congregationalist parishes finally resulted in the creation of two separate towns. The Baptists formed the town of Wales from a portion of South Brimfield lands,

while the Congregationalists established the town of Holland. Other new towns established during the period were Millbury (1813) and Southbridge (1816).

Many communities developed multiple villages, as mills developed along rivers and streams. In Uxbridge, Rogerson's Village, Rivulet Village (later North Uxbridge), Wheelockville, Hecla Village (later Centerville) and Squaw Hollow (later Elmdale) developed during the period. Along the French River, new villages arose in the towns of Dudley (Webster 1832 - East Village, North Village and South Village) and Oxford (Rockdale, Buffumville and Hodges Village). Along the Quinebaug River and its tributaries, Sturbridge and Southbridge also saw development of mill villages during the period.

As transportation routes developed, settlement also shifted within town boundaries. New villages such as West Sutton in Sutton, and Northside in Charlton, developed.

During the period many social institutions were established, including libraries (Douglas, Leicester, Oxford and Worcester), schools, and poor farms or work houses to care for the indigent. An extant early 19th century schoolhouse is in West Sutton. The Masons formed lodges in Worcester (1793), Charlton (1796), Oxford (1797), Uxbridge (1819) and Sutton (1823). Other social societies included Light Infantries, Fire Societies and Thief Detecting Societies. In Worcester, the American Antiquarian Society formed in 1812, and the Worcester County Agricultural Society formed in 1818. The Worcester Lyceum of Natural History was founded in 1825; today it is known as the EcoTarium. The Worcester Savings Bank opened in 1828. Post offices and lawyers began to appear in some towns.

In Dudley, a Universalist College was founded in 1815, later to become Nichols College. Worcester established the region's only school for Blacks in 1828.

**Economy**

American textile mill owners struggled to build more efficient textile manufacturing equipment following the Revolutionary War. The British were equally determined to retain American reliance on imported commercial goods, and sought to prevent textile production technology from reaching American shores. British efforts to contain knowledge and technology were defeated when Samuel Slater arrived in Pawtucket, Rhode Island in 1790. Slater had been employed by the Arkwright Mills in England, and was familiar with the latest water- powered manufacturing equipment. A group of mill investors promptly hired him, a new cotton spinning mill based on Slater's design was soon operating on the Blackstone River. The American Industrial Revolution was born.

As the water-powered mill technology introduced by Samuel Slater spread across the region, a new model of mill ownership and management evolved as well. The Rhode Island system of manufacturing, as it came to be known, was characterized by local ownership of small mills performing specific manufacturing processes. The system was founded on an English paternal model that supported every facet of mill employees' lives, from birth to the grave. Each mill was surrounded by a self-contained community built by the mill owner. The mill complex included machine shops and a tight knit cluster of housing, company stores, community centers and social institutions. Every facet of the mill employees' work and leisure activity was shaped by the mill

owner, who worked and lived alongside the whole families – men, women, and children - he employed. In return, the mill owners experienced little labor unrest, and could better control wages and factory output with a reliable, locally situated workforce.

The Embargo Act of 1807 and the War of 1812 and the resulting trade disruptions spurred the development of mills up and down the Blackstone and other rivers in the region. Water powered mills quickly developed at all the available dam sites in the Blackstone Valley; soon thereafter the same mill development occurred in the Quinebaug-Shetucket Valleys. The mills produced cotton and wool textiles, textile machinery, firearms, paper, axes and edge tools. As men's fashions changed from breeches to long pants in the early 19th century, satinet was produced in great quantities.

Following his success in Rhode Island, Samuel Slater established a number of mills in Massachusetts with the help of various business partners. In 1812, he established a cotton spinning mill in Oxford (Webster 1832) at the north end of Lake Chargoggagoggmanchaugagoggchaubunagungmaugg. By 1822, he operated 2 cotton mills and a woolen mill along the French River. There, Slater created community villages in East Village, South Village and North Village based upon the Rhode Island system. The Slater family continued to operate mills in Webster until 1928, building or refurbishing mills, worker housing, farms, a slaughterhouse, gristmill and other facilities. Some mill housing and mill buildings remain; the Slater family residences were demolished in the 1960's and 1970's.

Many of Samuel Slater's former employees and acquaintances went on to establish their own mills in the region based on the Rhode Island system. Slater's brother-in-law David Wilkinson built a mill in Sutton in 1823. His former employee Welcome Farnum and his brother Darius built mills at Waterford Village (later Blackstone Village) in Blackstone in 1825 and 1828. John P. Whitin, a Slater apprentice, expanded his family mill operation in South Northbridge (later Whitinsville) in the 1830's. He laid the foundation of a family dynasty that controlled Whitin Machine Works, a facility that grew to over 1 million square feet by the 20th century, and the village of Whitinsville for one hundred years.

Another mill complex built during the period which reflects Slater's influence is The Crown and Eagle Mills (1823/1827) in Uxbridge at Rogerson's Village (established in the1820's with the development of this complex) located on the Boston and Hartford Turnpike. The mill included a full hydropower system, an 1810 cotton mill converted into worker housing, a complex of brick worker duplexes, a community store with a community center hall, and a large scale granite and brick mill that succumbed to fire in the 1970's.

International trade difficulties during the period also spurred the development of locally-produced agriculture and finished goods. In both the Blackstone and Quinebaug-Shetucket Valleys, a diverse economy produced a wide range of food, clothing, tools, building materials, furniture, carriages, and a host of other items. Malt houses, breweries and gin distilleries were present as well.

Women worked at home spinning and weaving yarn, and braiding straw or palm leaf hats and baskets for resale. Also made at home were shoes and boots. Upton became a center for hat

manufacturing as small home businesses were organized into larger enterprises. The extant Kartiganis factory, formerly the Knowlton Hat Factory, is a remnant of that era.

In Grafton, a large cattle industry supported the manufacture of leather goods: whips, saddles, shoes, boots, harnesses gloves, caps, belts, and a variety of leather by-products including soap, grease, tallow and candles. Also in that community, Ethan Allen developed the revolutionary 'pepperbox' revolver and other firearms at his house and gun shop at 37-39 Waterville Street.

Upland towns such as Douglas, where agricultural soils were poor but water power and forests were abundant, saw the development of textile and wood products industries. Fulling, cotton and woolen mills operated at various times between 1806 and 1830. The local lumber industry produced barrel staves, tool handles, shoe lasts, spindles, furniture, pearl ash, shingles, siding, boats and wagons in small decentralized workshops.

Despite the development of new industrial operations, agriculture remained the principal occupation in the region for every town, including Worcester. Farms raised hogs and cattle for pork, beef, and veal. Sheep were raised for both mutton and wool. Dairying produced cheese and butter. Large quantities of hay, oats and corn were raised. Food crops included rye, barley, beans, potatoes, peas and herbs. Orchards were grown for cider and vinegar production. Hops, as well as some portions of the potato and barley crops, were used in various distilleries and malt houses.

In Worcester, other commercial activities included a paper mill, 4 gristmills, 2 fulling mills, 2 triphammers, potash works, a malt house and a gin distillery. By 1830, four weekly papers were published in the town.

**Landscape Features**

Both the Blackstone Valley and Quinebaug-Shetucket Valley communities retain some Federal-era landscape features, despite successive layers of development. These include the spatial organization of town commons, road networks, early farms and mill sites. An example is the Brimfield town center. A number of its surviving Federal-era residences and Congregational meeting house (1805) were built by Elias Carter, a respected architect of the period. Also included in the town common area is the Brimfield Cemetery, a Federal/Greek Revival store and post office at 9 Main Street.

Notable and unique survivals are the remnants of the Blackstone Canal and associated features (tow path, mile markers, dams, bridges, and locks). While Millville hosts the only surviving complete canal lock, in the town of Northbridge a portion of Lock #26 is used as a bridge abutment and just beyond this bridge is a portion of the Goat Hill Lock.

In building the Blackstone Canal, some of the region's natural ponds were dammed to create reservoirs that could be used to ensure sufficient water flows for canal operation. On the Massachusetts portion of the canal, these include North Pond and Lake Quinsigamond in Worcester, Dorothy Pond in Millbury, Manchaug and Badluck Pond (also known as Laurel Lake) in Douglas, Ramshorn Pond in Millbury, and Mendon Pond in Mendon.

Other extant features from the period include burial grounds in Mendon, Dudley, Douglas, and numerous other communities. Surviving dry laid stone walls were created by farmers clearing fields. Stone walls marked boundaries, confined livestock, or simply served to clear fields for cultivation. In stonier areas where land was used solely to pasture animals, large rocks were left in situ.

Extant mile post markers are found in Mendon, Sutton and Uxbridge.

Extraction industries developed during this period, mostly in response to industrial expansion. Northbridge began quarrying granite in 1820, and some of it was used to build the Blackstone Canal. The vein of granite that runs through the region allowed many farmers to quarry granite as an additional source of income.[2] There is a recently documented granite quarry site on East Hartford Avenue in Mendon associated with a federal-era farmstead. In the East Brookfield area, investors from Worcester and Brookfield established the Brookfield Furnace, mining local iron ore for the production of stoves, plows and other items. Worcester was a site for coal and peat mining during the period.

The Rhode Island System of manufacturing resulted in a new settlement pattern for the Blackstone and Quinebaug-Shetucket Valleys. The riverside mill villages that sprang up along the Blackstone and its tributaries, as well as Singletary Brook and the Quinebaug and French Rivers clustered around multistory, frame, stone and brick factories. Orderly rows of worker housing were built within walking distance to the factory. Worker houses often featured small garden plots, and mill owners sometimes had larger farms nearby. Company stores, churches, schools, and other community buildings became part of the landscape as time went on. These complexes created the densest concentration of industry in the nation at the time.

Numerous historic archeological sites exist from this period, including hilltop or valley farmsteads and abandoned mills located along rivers and streams. Examples include the A.Wilson Axe and Scythe Shop site (1828) in Millville, the Hecla Mill site (1825) in Uxbridge, and the Horne Hill Steatite Quarry off Singletary Pond in Millbury.

## *V Early Industrial Period (1830-1870)*

Transportation played a key role in the rise and fall of the fortunes of the towns in both the Blackstone and Quinebaug-Shetucket Valleys during this period. Those towns served first by the Blackstone Canal and later by railroads saw their populations rise as the industrial revolution brought industry and manufacturing centers to the region. Both the southern slave economy and the Civil War had a tremendous impact on industrial production, as local mills won contracts to produce clothing, shoes, tools, and firearms. The historic political and economic dominance of the upland farming towns was eclipsed by the valley mill towns, whose production output accelerated rapidly until the end of the period. Increasing immigration from Canada, Great Britain and Eastern Europe brought a new workforce to the region's mills and farms, greatly diversifying the general population. The region's communities grew rapidly in size, density and complexity during the period as new industrial centers and new residential areas were built.

**Transportation**
Boston urgently wanted to recapture the emerging central Massachusetts economy from Providence, and found the means to do so in railroads. On July 4, 1835, the Boston to Worcester Railroad arrived in Worcester. The train offered greater speed and reliability than the existing transportation modes of roads or the Blackstone Canal. Soon other railroad companies were laying track across the region, including the Boston and Albany line through north Charlton in 1838. In 1847 Providence and Worcester Railroad opened, its track often running alongside the canal. The effect on the already struggling Blackstone Canal business was almost immediate. By 1848, canal shipping operations ceased, unable to compete with the faster, more reliable railroad. The canal began its long period of dormancy and decline.

Worcester maintained its importance as a regional center due to its strategic central Massachusetts location and status as the county seat. Towns that were bypassed by rail saw agriculture remain the focus of their economies. Wherever the rails touched an area, however, new villages and industrial nodes developed. Examples include the mill villages of Riverdale and Rockdale in Northbridge, Wilkonsville in Sutton, and three villages in South Grafton: Farnumsville, Fisherville and Saundersville. In South Mendon villages of Millville, Blackstone(1845) and Millerville developed. In Charlton, the village of Charlton Depot developed after 1838. In Webster, the railroad spurred new mill and residential expansion in East Village, North Village and South Village.

The railroad brought new engineering techniques and new structures to the region. Railroad features included bridges, stations, and signal houses.

In Holland, the demand for potable water resulted in the development the Hamilton Reservoir in 1866. The main north/south route through town (Mashapaug/Brimfield Road) was relocated to accommodate the reservoir.

**Population**
The first waves of large scale immigration occurred during the period. Irish and French Canadians were the principal ethnic immigrant groups, escaping famine and crop failures in their respective countries. The Irish worked on the railroads; the French Canadians in the textile mills. Other ethnic groups came in smaller numbers, lured by the promise of better economic conditions and industries that needed their skills. The English came to work in Northbridge and Leicester in machinery production mills, and to Blackstone, Millbury, Uxbridge and Webster in the textile industry. The Swedes came to the region to escape famine as well, and took up farming or work in Worcester's emerging steel and metals industries. German and Polish immigrants fled a depressed economy and political turmoil in their country to work as skilled craftsmen.

The tremendous population growth of the period can be seen in some of the statistics. Worcester grew tenfold between 1830 and 1870 from 4,100 to 41,000. In the rest of the region, the greatest growth was in those communities where mills were present. By the end of the period the towns with a greater than 30% foreign-born population were Southbridge, Dudley, Webster, Millville, Blackstone, Hopedale and Millbury. Towns who still maintained a principally agricultural base

during the period saw far less immigration, and this group included Charlton, Mendon, Sutton, East Brookfield, Holland and Brimfield.

**Settlement**

As mill villages developed, immigrants arrived and farmers were drawn away from their land to work in town. In response, mill towns grew rapidly in size and density during the period. Repeating mill village settlement patterns of an earlier period, distinct mill villages continued to emerge separate from established town centers. In Leicester the villages of Cherry Valley, Greenville, Manville and Rochdale, (formerly Clappville) were established and worker housing and mills for textiles, textile machinery and machine knives were built. In Webster, South Village became the town's industrial and commercial center after 1840, as the railroads spurred the expansion of manufacturing and other trade enterprises. In Southbridge, Hamilton Woolen Mill was founded on the Quinebaug in 1830. In 1853, Hamilton Mill owners built a Catholic church to keep French Canadian immigrants living and working at the mill. Also in Southbridge, Globe Village developed around the Big Mill with three styles of housing for workers: cottages, two-family houses for foremen/skilled craftsmen, and high style houses for managers. Due in part to its growth during this period and its importance as a regional center, Worcester reincorporated as a city in 1848.

Similar mill villages developed in other areas of the region. In Dudley, the Perry Woolen Factory established a small mill village along the French River in the 1820's. By 1870, the village of Perryville included 14 worker residences, the Perry family residence, a factory and associated factory buildings. The mill building was demolished in the 1980's, but surviving elements include some of the worker housing, the former mill owner's house and barn, as well as portions of the mill infrastructure including dams, canals and raceways. In Charlton, new industrial villages developed in Charlton City and South Charlton (Lelandville).

An increased interest in social welfare resulted in the founding of institutions for health and care of citizens. The County Jail and State Lunatic Asylum were built in Worcester. Some communities found it necessary to establish police departments. The Worcester Employment Society (later the Worcester Center for Crafts) was founded in 1856 to help new immigrant women find work. Social clubs and organizations were also founded during the period, including the Worcester County Horticultural Society (1842), the Worcester Association for the Protection of Fruit (1843), and numerous Temperance societies.

Massachusetts enacted mandatory education reform in the 1830's. High schools were formed in many towns in the region as the role of educating children was assumed by public financing. Worcester led the way with the formation of public and private institutions. New schools there included the Manual Labor High School (1832), Classical and English High School (1845), and a Truant School. An extant school from the period is an 1871 school in Farnumsville, South Grafton along the Blackstone.

Private schools established in Worcester during the period included St. James Seminary (later Holy Cross College) in 1843, the Highland Military Academy and the Worcester Academy. Schools to educate women included Oread Institution (1848-1881) and the Female College (1856).

The growing influence of industry was reflected in the establishment of the Mechanics Association (1842) the Institute for Industrial Sciences in 1865 (later Worcester Polytechnic Institute). The Mechanics Association built the acoustically-acclaimed Mechanics Hall in 1857 to host educational and cultural activities; it remains a venue for concerts and events today at 321 Main Street, Worcester.

The influx of immigrants of different faiths had a pronounced effect on the religious structure of the region. In 1834, the first Roman Catholic Church west of Boston was built in Worcester. The huge number of French Canadian immigrants resulted in four French-speaking Roman Catholic churches, and by the end of the period 14 Catholic churches and missions had been established in the region. In Worcester, the region's largest population of Blacks formed the Zion Methodist Church on Summer Street in 1846.

In 1841 the Reverend Adin Ballou gathered a group of Practical Christians on a 258 acre Milford farmstead, marking the beginning of the utopian community of Hopedale. The community advocated temperance, abolition, women's rights, Christian socialism, and non-violence. Two of the community's stockholders, Ebenezer and George Draper, gradually bought out the community's assets as various enterprises failed to turn a profit. By 1856, they were the majority owners. The Draper brothers went on to found a family dynasty that ultimately transformed the utopian farm community to a model company town. For one hundred years, the socially conscious Draper family built Hopedale's award-winning worker housing, parks, and civic buildings around the Draper Corporation holdings. The Drapers commissioned some of the country's preeminent architects and landscape architects to design Hopedale's public buildings, housing and parks during the period.

**Economy**

The financial panics of 1837, 1848 and 1857 reflected a period of economic instability in the country as the nation's economy transitioned from agriculture to industry. During this period, the region's economic base also shifted from agriculture to industrial production. The industrial innovations begun under Samuel Slater continued, as mill owners, inventors and businessmen developed new technologies, manufacturing processes and products. Later in the period, the Civil War provided an economic boost to the region as demand for war-related products kept industrial production high. Textile mills from Uxbridge to Charlton produced woolen blankets for the Union Army. In Douglas, Civil War government contracts so greatly increased orders at the Douglas Axe Works (1834) that by 1875 it had eclipsed the local textile industry as the largest manufacturer in town. Through the period, demand was particularly high for leather, textiles, shoes, boots, hats and tools.

Towns beginning to experience a mix of agriculture and industry during the period included Grafton, Sturbridge, Oxford and Upton. Grafton exemplifies the transition from farm to factory: in less than a decade, the town's economic base changed as the manufacture of shoes, woolen and cotton cloth overtook farming. During the period, three manufacturing villages developed in South Grafton. Farnumsville (1827) was established with a textile mill, workers cottages, and a hotel commercial area. In Farnumsville Upper Village (later Fisherville) a textile mill was built.

Saundersville included a mill**,** school house, boarding house, a commercial and a community block, and over 50 houses.

Early in the period the region's economy benefited from the presence of slaves in the south, even though abolitionist sentiments ran high. Notable abolitionist activity occurred in Hopedale, Worcester, and Upton. In Upton, the Polly Dean Bradish House(1844) was a stop on the Underground Railroad. Nevertheless, many of the region's shoe manufacturers produced cheaply made brogans for slaves. Local textile production included so-called slave cloth, a coarse cotton-wool fabric used for their clothing. Many companies manufactured tools that were used by slaves working in the fields.

In 1853, Moses Taft established what would become the Central/Stanley Woolen Mill on Mendon Street in the town of Uxbridge. He secured the water rights from the defunct Blackstone Canal, diverting the water to run his mill. With the Civil War came large government contracts for woolen cloth and blankets. Central/Stanley Woolen and other Uxbridge mills produced cloth in great quantities for uniforms and blankets during the Civil War. The Central/Stanley Woolen Mill operated until the early 1990's and is a surviving example of a large scale mid-nineteenth century wood framed mill.

Also in Uxbridge, the Linwood Mill was constructed of locally quarried stone and locally made brick. The mill would be acquired by the Whitin family of Whitinsville in the 1870's. The Linwood Mill still stands on Main Street (Route 122) in North Uxbridge.

*Linwood Mill, Uxbridge*

The steam power that pushed locomotives could also be used to power factories, enabling mills to be built away from water power for the first time. Many of the region's manufacturing communities experienced growth as the demand for textiles, textile machines, textile components, and tools grew during the period. The Civil War cut off the southern cotton supply, forcing textile mills to switch to wool cloth production.

Agricultural production benefited from railroads as it became easier to ship products to city markets. There was an increase in dairying and cattle-raising and a corresponding rise in acreage devoted to hay and pasturage. There was a decline in grain production as it became cheaper to grow grain in the Midwest and ship it to the northeast by rail. Fruit orchards, in particular apple, pear, and peach, appeared in greater numbers. In Sutton, the Sutton Beauty apple was developed. Horses replaced oxen as lighter weight farm machinery came into use for cultivating crops.

Worcester's industrial strength grew and diversified during the period. By 1860 the city was the country's leading manufacturer of agricultural tools. The Ames Plow Company and other mills located north of Lincoln Square produced plows, plowing machines, and other farm equipment. By 1865, Worcester hosted eleven woolen mills, two cotton mills, and eight textile machine manufacturers, including Crompton Loom Works.

Major advancements in wire manufacturing, along with increasing demand for all kinds of wire, brought about major growth in that industry during the period. By 1865, three wire mills, including the Washburn and Moen (1835) operated three mills producing card wire for the textile industry and fine wire for telegraph lines, crinoline hoops, piano wire, and other uses. They waited out a patent war in court, ultimately buying up patents in order to manufacture barbed wire. The company's investment paid off, and they were known as the company that fenced the American west. By the 1870's Washburn and Moen's various wire operations produced 100,000 miles of wire a year.

In addition to tools, textiles and wire, Worcester was a leading producer of guns, paper, wood, shoes and boots, railroad cars, structural and architectural iron, ice skates, and textile machines. An extant period building is the Sargent Card Clothing Company's Southbridge Street factory (1866).

To the south in the Quinebaug-Shetucket Valley, the rapidly growing towns of Southbridge and Webster were developing a similar industrial diversity in the manufacture of textiles, card paper, hats, bricks, eyeglass frames and lenses, wood products, railroad cars, coaches, sleighs, boxes, coffins, wheel spokes, teeth, candles, soap, cabinetmaking, and tinware.

During the period, manufacturing output elsewhere in the region included bricks, wood products, building materials, textile machine parts, metal castings, machine tools, hosiery, watches, edge tools, boxes, knives, firearms, shoes and shoe parts.

**Landscape Features**

Village streetscapes evolved to contain a mix of residential and civic or commercial buildings, including a church and school. A mill, factory or railroad depot was often present. In larger towns, period homes for wealthier residents often occupied the same streetscape. Industrial areas developed during the period included mill buildings, and associated structures such as warehouses, railroad spurs, dams, or higher density worker housing. Urban settlement patterns in Worcester began to assume grid patterns with distinct commercial blocks and civic buildings.

In Blackstone, an extant example includes 1820's and 1840's mill houses and an 1843 company store/social hall known as "the Arcade"on Church street. Main Street is home to more substantial 1840's/1850's Greek Revival-style houses for mill owners and managers; and the Blackstone Congregational Church, built in 1836 by the Blackstone Manufacturing Company for its employees, is nearby.

In some towns, as new industrial centers developed, they eclipsed formerly-established town centers as the new focus of commercial activity. Parallel evolution of the two centers resulted in one with a commercial focus, and one with a governmental focus. Examples include Charlton (Charlton City/Charlton Center) and Sutton (Wilkonsville/Sutton Center).

The Grafton town common, established during the Federal period, was transformed to an oval park between 1843-1844. Commercial blocks were developed around the new common, along with a mix of residential, commercial and institutional buildings. Many examples of nineteenth

century architectural styles survive, including the Warren Block (1862), the Baptist Church (1830), the Evangelical Congregational Church (1833), the Grafton National Bank (1854) and numerous residences.

*Grafton Town Common*

Changing views about death and the need for more burial space resulted in the transformation of cemeteries as places of repose and beauty. The1830's rural cemetery movement influenced everything from the design, layout and planting of cemeteries to the design of monuments and markers. Colonial and Federal burial grounds were often grim, treeless spaces located near the church and fenced only to keep straying animals out. Rural cemeteries founded on the outskirts of towns and cities, including Worcester's Rural Cemetery (1838, still in operation) featured curving tree-lined paths and monuments featuring symbols of early Victorian grief: weeping willows and urns. As granite quarries opened in Northbridge, Charlton and other communities, granite became the preferred material for monuments and gravestones.

*Rural Cemetery, Worcester*

The region's forests were intensively harvested during the period to meet the demand for furniture, tools, building materials, home fuel wood, tanning, charcoal production and fencing. It is estimated that nearly 70 percent of the state was cleared of its forests by 1860.

As the period wore on, a movement began to beautify public spaces. Tracing its origins to the Village Improvement Society of Sheffield, Massachusetts, which was organized in 1852, the movement encouraged agriculture, horticulture, or improving and ornamenting streets and public squares of any town or city by planting and cultivating ornamental trees. In the years that followed, the movement gained momentum; by the 1880's there were 23 village improvement organizations in Massachusetts. Many communities in the region began planting their commons and streets; Worcester's downtown was lined with elms.

In 1854, the country's first public park was established by the city of Worcester. Elm Park remained little more than a pasture until the 1890's, when the Olmsted Firm was commissioned to redesign the park, which remains in use today.

Extant archaeological sites include mill remains from the period include the Asa Waters Armory (1808-1845) and the Thomas Blanchard Shop site on West Main Street in Millbury, the Douglas Axe Company site (1835) on Mumford Street in Douglas, the Box Mill site (1860) on Bellingham Street in Mendon, the Mammoth Mill site (1865) on Farnum and Mill Streets in Blackstone, and the Island Mill site and the Stone Mill site on Central Street at the Blackstone River in Millville.

## *VI Late Industrial Period (1871-1915)*

During the period between the end of the Civil War (1861-1865) and the eve of World War I (1914-1918), the region saw a shift from small village factory operations to large industrial complexes. National policies encouraged the consolidation of banking, industry and transportation services, creating powerful monopolies. The region was buffeted by economic fluctuations that typified America during the post Civil War era. A series of economic depressions was followed by boom periods, each more profitable than the last. The American labor movement took root as working conditions in factories worsened. Immigration from Eastern and Southern Europe, Scandinavia, Great Britain and Canada intensified, creating a large diversified working class in urban areas. Electricity brought street lights, faster street car transportation services - and new rings of urban neighborhood growth. An increasing amount of agricultural land was abandoned for work in the mills. Wealthy industrialists built churches, schools, libraries, or town halls in their communities in the years of civic largesse before income taxes and the Great War.

**Transportation**

The expansion of the region's railroad network continued in its final phase. Among the routes completed during the period were the Grafton and Upton Railroad (1874 to Grafton, 1889 to Upton Center and 1890 to Milford), and the Webster Branch Railroad in 1885, connecting Worcester, Auburn, Oxford and Webster with points south along the French River. In Millbury, a Pratt Thru Truss railroad bridge was constructed in 1889. It remains in existence, one of the oldest of its type in the state. The Uxbridge Train Depot (1895) was a stop on the Providence and Worcester line.

In Worcester, the Citizen Street Railway Company operated a horse trolley service. A planned railroad spur in Millbury was never connected past its Canal Street depot, so a horse trolley service known as the Millbury Dummy ran until the 1870's.

During the 1890's, the street railway service was electrified in Worcester, more than doubling the speed of the system and greatly increasing the distance people could commute to work. A complete cross-city network soon developed, with interurban lines extended to Millbury, Southbridge/Sturbridge, Webster and the Brookfields. On the east side of the Blackstone Valley, the Framingham/Milford Electric Railway Company ran lines into Hopedale and Uxbridge in order to bring patrons to Lake Nipmuc in Mendon. A narrow gauge electric railway line in

Worcester brought day trippers to White City on the shores of Lake Quinsigamond for a day of entertainment.

In 1893, the Massachusetts Highway Commission was established, and before the end of the century there were steam powered automobiles in the streets of Worcester. By 1903, there were as many as eighty-six vehicles registered in Worcester. The state highway system was slow to develop; major improvements would not be realized until the 1920's and 1930's.

**Population**

Large scale immigration continued, with population growth centered on industrialized areas. Urban areas experienced dramatic increases as immigrants continued to arrive, escaping political and economic turmoil in their native lands and lured by the promise of a better life in America. In contrast, rural agricultural towns saw their populations fall as farmers left their land to work in the mills or seek more arable land in the American west.

Worcester led the region in population growth. By 1915, its population stood at 160,000 – a 300% increase over the previous period. Other industrial towns in the region which experienced significant although less dramatic growth rates were Hopedale, Northbridge, Southbridge and Webster. Notable growth also occurred in Blackstone, Charlton, Dudley, Grafton, Leicester, Millbury, Sutton, and Uxbridge.

In contrast, the region's rural agricultural towns experienced population losses. Sturbridge, Holland and Mendon all saw population decline at this time. Holland's experience was particularly severe, as half of the town's residents left during the period. By 1915 the town's population stood at 159.

Principal immigrant groups for the period were Italians, Swedes, Russians, Austrians, Dutch, Germans, Lithuanians, and Poles. They remained in tight-knit ethnic communities, and often worked in an area of particular specialty. In spite of this settlement pattern, most communities hosted a range of foreign-born groups. Only a few towns in the region were dominated by a single ethnic group. Examples of ethnic strongholds include the French Canadians, who were the primary ethnic group in Sutton, Southbridge, Oxford, and Sturbridge. The Irish dominated Leicester, while the Polish were the principal ethnic group in Dudley.

Foreign born immigrants contributed heavily to the population increases in many communities in the region. By the end of the period, more than 30% of the population in Blackstone, Millville, Douglas, Dudley, Northbridge, Southbridge, Sutton, and Worcester were foreign-born. In Grafton, Millbury, Oxford and Uxbridge, between 20% and 30% of the population were foreign born.

Numerous Roman Catholic churches established to serve particular national groups, including Italians, Lithuanians, Poles and the French Canadians. In 1877, a Congregation Sons of Israel was established in Worcester, followed by one in Southbridge, later followed by Eastern Orthodox groups in the same communities. The Scandinavians and Germans formed Lutheran churches. Later in the period some of these ethnic churches began to establish cemeteries for their congregants.

**Settlement**
Immigration brought about increasing density of mill villages as mills expanded in the economic boom immediately following the Civil War. Infill occurred in existing early industrial/federal areas.

Until the advent of electric streetcars in the 1890s, urban centers were compact, high density areas geared toward walkers. Residential neighborhoods concentrated within walking distance of workplaces and commercial downtown areas. For the first time, electric streetcars allowed for the development of residential suburbs beyond the urban core. Both single and multi-family dwelling neighborhoods were created. In Worcester, the streetcar lines brought suburban development in every direction. On the northwest side, streetcar suburbs developed along Salisbury, Highland, Pleasant, June, and Chandler Streets. To the east, they grew up along Chandler Hill, Belmont Street and Shrewsbury Street. Suburbs also began to form in Lake Park to the west and Greendale to the north.

Worcester continued to grow as its economic base expanded and diversified with larger and larger industries. The central district skyline grew upward as three to six story commercial blocks of the earlier period were overshadowed by ten or eleven story steel frame structures. Union Station was built in the 1870's, and replaced in 1910. Civic landmarks, such as the City Hall and the courthouse were rebuilt on a more monumental scale. Colleges and universities established themselves in prominent hilltop sites at the edge of the city center. The highlands north and west of the city fostered new upper and middle class residential development, made possible by street cars. A network of city parks threaded through the city's commercial and residential districts.

In other areas of Worcester, distinctive new ethnic neighborhoods were being formed. Immigrant groups were establishing their own churches, synagogues, schools, social clubs, and business areas. French Canadians lived at Grafton Hill, the large Swedish population occupied Belmont Hill, Greendale and Quinsigamond Village, while the Italians lived on Shrewsbury Street, the Jews were on Winter Street, Water Street and Vernon Hill, and the Lithuanians and Poles were found in the Island and on Vernon Hill. Many second and third generation Irish dispersed from the inner city during the period as these new groups moved in. In Worcester, the need for multiple housing units spurred the development of a new type of urban dwelling in the 1870's: the three-decker apartment house.

Mill owners prized particular ethnic groups based on their work ethic. The Washburn & Moen Wire Works in Worcester actively sought out Swedish Methodists, whose conservative values, work ethic and temperance made them ideal employees. By 1900, 79 percent of the 3,000 people living in Worcester's Quinsigamond Village were Swedish. Eighty-five percent of the village worked for Washburn and Moen.

Increasing density and the stress of urban living brought about a need for more social services. The Worcester Insane Asylum opened in 1870; in 1902 the Grafton Colony of the Worcester State Asylum was established on 200 acres of farmland. Many of the grounds and buildings

survive, at least in part. The Worcester Memorial Hospital opened in 1871. Oxford native Clara Barton founded the Red Cross, and chapters were established in the region during the period.

Recreation took many forms, as leisure time became more accessible to the working class. In 1880, Worcester joined the National Baseball League; the first no-hitter game in Major League baseball was pitched at the Agricultural Fairgrounds there in June of that year. Baseball caught on quickly as an affordable, exciting pastime in the mill villages as well. Mill owners found the sport was a way to teach values of teamwork and cooperation among mill employees. Both mill owners and their teams found baseball was a new way to pursue longstanding rivalries with other mills in the region. Baseball fields soon occupied places in mill villages from East Douglas to Millville. In the years that followed, mill owners recruited employees with baseball skills to enhance their teams' chances, including some of the first black employees. For young men, playing on mill teams could be a means out of the mill. At least 55 players on the region's mill teams went on to play in the Major Leagues.

As economic opportunities expanded for all classes, stratification occurred within all ethnic groups. In Worcester, the wealthy established the Worcester Art Museum and the Tatnuck Country Club in 1898. New religious and secular institutions developed to serve the region's ethnic populations, principally the French Canadians, Swedes, Italians, Lithuanians, Poles, and Jews.

Educational institutions and libraries were created or expanded. Clark University (1887), Becker Junior College (1887), Assumption College (1904), and the State Normal School were established. Expansion occurred at the Worcester Academy, Worcester Polytechnic Institute and Holy Cross. The Worcester Historical Museum, the Worcester Art Museum and the American Antiquarian Society all constructed new buildings. Carnegie libraries were built in Quinsigamond Village (1913) and Millbury (1915).

New groups formed included many Civil War veteran's organizations, the Patrons of Husbandry (Grange) and social clubs for women. In the paternal mill towns, organizations were often sponsored by and named after mill owners.

Fire stations, such as Oxford's Huguenot Fire House and Worcester's Quinsigamond Fire Station (1891-1892) were established to protect both mill complexes and burgeoning communities.

**Economy**

During the period, industry continued to gain as an economic force in the region, and agriculture continued to decline. Postwar economic slumps and destructive mill fires idled factories and tested the paternal system as mill owners found ways to keep their workers on the payroll.

Worcester's industrial economy expanded significantly as the industries of iron and steel, textile machinery, abrasives, foundry products, machine tools, leather goods, forgings, machine screws, and envelopes emerged as major industries. Continuing innovation led to the increased mechanization of industrial processes, resulting in the need for a less skilled workforce and fewer workers.

As mill shifts went around the clock, delivery wagons pulled by horses began serving meals to hungry workers. Soon, a number of companies in Worcester and other cities around the country were manufacturing buildings on wheels especially for the purpose of feeding factory employees near their workplaces. Designed to be pulled through narrow city streets, the structures evolved from wooden horse drawn carriages to sleek, fully equipped dining cars pulled into semi-permanent locations by trucks or trains. The Worcester Lunch Car Company was in business on Grafton Street in Worcester from 1891-1908, and made its famous diners in the city until 1961.

Worcester continued to be a center for banking and insurance, department stores, and hotels. Many banks and insurance companies built new, larger headquarters during the period. A Board of Trade formed in 1898.

Hopedale emerged as an internationally recognized model company town during the period. The Draper family's role as innovators/inventers in the textile machine industry, coupled with their commitment to community and employees, set them apart from all others.

The textile industry continued to thrive in Webster, and in the Blackstone Valley towns of Millbury, North/South Grafton, East Douglas and Uxbridge. In the village of Whitinsville (in Northbridge), John Whitin's textile machine company became one of the leading textile machine manufacturers in the world. By 1910, the company owned seven hundred dwellings and five mills, producing both textiles and textile machines.

In Southbridge, the American Optical Company began to grow rapidly, producing machines and tools for the optics industry. The 1899 mill structure and later additions are still extant.

In West Upton, the Knowlton family expanded its women's hat making business, which survived through several different owners until 1972.

Agricultural output shifted to serve the growing food supply demand of the industrial workforce. The harvesting of ice in large quantities from the region's lakes and ponds beginning in the 1860's and 1870's permitted milk and produce to be kept fresh longer.

*American Optical Company*

Farmers dramatically increased production of dairy and poultry products, including milk, butter and eggs. The number of fruit orchards and market gardens increased. Other activities included growing hay, grain crops and pasture to support dairy herds. Cheese production declined as refrigeration improvements allowed more milk to be shipped. In spite of Worcester's growing industrial strength, it continued to host more farms than any other town in the county. Other communities also maintained a strong agricultural base - Charlton's rich agricultural soils supported 261 farms in 1875.

Industrial production during the period included bicycles, lunch cars, automobile parts, barbed wire, wooden sashes and blinds, and industrial abrasives. At the end of the period, a liquid fuel rocket was invented in Worcester, leading to space flight in the next century.

**Landscape Features**

Town center streetscapes began to develop multistory buildings in commercial blocks during the period. Civic institutions such as libraries, schools, and town halls continued to develop in the town center cores, which generally featured a park or monument, especially after the Civil War. Rural villages continued to experience infill among earlier period houses, as well as extension along new transportation corridors. Industrial villages evolved into larger manufacturing areas from the previous period. They often included associated worker housing, a school and church. Rail spurs or trolley lines were frequently present.

*Memorial Square*
*Whitinsville*

In Whitinsville, the Whitin family built Memorial Square in 1890 – a village common made out of a former pasture. A Civil War memorial was added in 1905.

In larger towns and in Worcester, residential neighborhoods began to assume distinct character based upon economic status. Residential areas developed in a linear pattern along street railway lines. High, middle and lower income residential neighborhoods established as distinct geographic units in this manner. Urban streetcar suburbs established as multifamily, multistory homes on small lots, often adjacent to commercial buildings. Three-decker apartment buildings appeared in the 1870's.

As industrial development brought pollution and crowded living conditions to many communities, the value of recreation, fresh air and the open countryside was recognized. Rural areas were viewed as places for health, reform, and recreation.

Electric streetcar development to most communities allowed urban dwellers an opportunity to travel out of crowded urban areas. In response, rural areas developed resorts. Mendon and Leicester became resort destinations in the 1880's and 1890's. In Mendon, Lake Nipmuc Park and Vaudeville Center (1880-1915) offered steamboat rides, lakeside cottages, a theatre, dance pavilion, vaudeville acts, and a merry-go- round. Several dairy farms in town were converted to use as summer boarding houses catering to vacationers.

Street car lines also brought day trippers to street car amusement parks. Lakeside cottage development commenced on many of the region's ponds and lakes, including Hamilton Reservoir in Holland and Dorothy Pond in Millbury. A nondenominational religious gathering became the Douglas Camp Meeting grounds, with a restaurant, boarding house and cottages. The Douglas Camp Meeting is still operating, with some early buildings extant.


*Douglas Camp Meeting*

Many of the more prosperous industrialists, including John Whitin of Whitin Machine Works in Northbridge and the Drapers in Hopedale established agricultural farms outside their factory villages. The initial purpose was to supply mill workers with fresh produce. As the years passed, these farms became an alternative source of employment when the mills became idle. During one of the post-Civil War depressions in 1875, John Whitin wanted to keep his employees on the payroll. He paid them to build a stone wall six feet high and six feet wide around his hundred acre property at Castle Hill Farm in Northbridge. Known locally as the Great Wall or the Hundred Acre Field, this monument to paternal mill owner protection is still extant. It is visible along Sutton Street in Uxbridge and at Castle Hill Road in Northbridge. The ruins of the Whitin barn complex are also visible at the end of Castle Hill Road.

*The wall at the Hundred Acre Field*

*Whitin Barn ruins*

Some of the great estate farms became showplaces, as wealthy industrialists indulged in importing and breeding champion cattle and horses and building elaborate farm complexes. For the most part, these great estates did not survive the Depression years.

Baseball diamonds were developed – in 1880 in Worcester, later in East Douglas, Millville, and Hopedale as part of mill village complexes. Landscape architect Warren H. Manning designed the Hopedale field and associated 250 acres of associated parkland. Most included bleachers to seat the thousands of spectators that came to games. Hopedale's field had lights for night games.

Utilities came to many communities in the region during the period. Telephone and light poles and associated utility service equipment became new features on the landscape. Street lights came to Grafton in 1871 and to Worcester in 1883. By the late 19th century, the Drapers ensured that Hopedale had water lines, sewer, gas, and electricity. In Worcester, the Blackstone Canal trench found an adaptive re-use as part of the city's wastewater system in the 1890's.

In Mendon, entrepreneurs began bottling water at Miscoe Spring, a business that continues today. A similar enterprise began in Leicester that today is known as Polar Beverages.

During the period, as farmers left their land to work in the mills, agricultural land reverted to forests. Second growth woodlands began to reforest the state, led by white pine. Remaining dairying and poultry operations expanded, resulting in larger barns, silos and outbuildings to hold livestock and dairy/poultry processing equipment. Extant large scale dairy farm complexes in Dudley include 264 Dudley Southbridge Road and 75 Marsh Road. Surviving large scale

poultry farm complexes in the same town are located at 35 Dresser Hill Road and 63 Healy Road.

The development of many ethnic churches during the period gave rise to ethnic cemeteries. Examples include Saint Michael's Ukrainian Orthodox Cemetery in Blackstone (1914) and the Old Swedish Cemetery in Worcester (1885).

*Dutcher Street Worker Duplex, Hopedale*


*Draper Factory, Hopedale*

In Hopedale, as the Draper Corporation grew and expanded, landscape architect Warren H. Manning was hired in 1888 to transform the Draper village cemetery (1845) into a more suitable resting place for the Drapers. Manning also worked for the Drapers to design the Bancroft Park (1890) residential development and a public park around Hopedale Pond called Parklands. The Drapers hired landscape architect Arthur Shurcliff between 1895 and 1910 to lay out Lake Street, Progress Street, and Soward Street for residential development in Hopedale, as well as the Delano Patrick Estate subdivision between 1900 and 1915. The Olmsted firm was hired by George Draper in 1890 for unspecified work, and records indicate the firm worked on the Draper Mausoleum from 1889-1963. Between 1900 and 1906, the Drapers won international awards at the Paris Exposition, the Liege Exposition and the Milan Exposition for their model worker housing developments.

*Parklands, Hopedale*

One of young landscape architect Fletcher Steele's first recorded commissions was for a Mrs. E.L. Osgood in Hopedale, dated 1914. Street records for the period indicate her husband was a retired Draper employee.

Beginning in 1892, the Olmsted firm began working in Worcester, and a series of commissions extended well into the next century for Worcester Common, Elm Park, Green Hill Park, and Lake Park. The Olmsted firm also worked in Whitinsville during the period for the Whitinsville Congregational Church in 1899 and the Whitinsville Bank 1904-07.

In 1892, the Massachusetts Legislature established the Trustees of Reservations, authorized "to purchase, preserve and administer areas of unusual scenic, historic or natural interest for the benefit of the public". Six years later, the state park system was founded when Mount Greylock State Reservation was purchased to protect it from logging interests. In the early 1900's, the State Forester and his staff began purchasing neglected and abandoned second-growth agricultural fields to set aside as forest land for forestry management, wildlife habitat and public recreation.

## *VII Early Modern Period (1915-1940)*

As World War I began, local industries responded by retooling to meet the demands of wartime defense contracts. Manufacturing continued to dominate the economy, and as the industrial system matured, a distinct salaried middle class arose. After 1924 foreign-born immigration decreased dramatically, the result of national laws restricting immigration. As the cotton textile industry migrated south during the 1920's in search of cheaper labor, land and production costs, the region began a decline from which many communities never fully recovered. The Great Depression brought additional hardship to the region. Only communities such as Southbridge, Hopedale and Whitinsville, through a combination of paternalism and diversified industry, weathered the era well. The automobile replaced the trolley and the railroad as the principal mode of transportation for many, resulting in new roads and the creation of automobile suburbs in many communities. At the end of the era, the Hurricane of 1938 resulted in a loss of life, as well as widespread destruction of buildings, street trees, and forests.

**Transportation**

As the automobile gained in popularity streetcars lines were discontinued. Their routes were often repaved for automobile use. Automobile Row was established in Worcester as a series of car dealerships located on Park Avenue. An automobile club started in the city in 1900.

The state highway system, founded during the previous period, began to take shape. Depression-era public works projects included rebuilding the old Boston and Worcester Turnpike as Route 9, a multilane express highway in 1931. U.S. Route 20 was rerouted, bypassing Worcester and the Brookfields, instead extending across the towns of Oxford and Charlton to Sturbridge. Route 146, a highway connector between Worcester and Providence, was designed in the 1940's and constructed in the early 1950's, initially as a four-lane roadway in its northern stretch (to Sutton) and as a three-lane, limited access road in its southern stretch. Route 12 ran south from Worcester through Oxford, Webster and Dudley, connecting north of Worcester and south into New London, Connecticut. Route 122, the spine of the valley's transportation network, connected many valley towns to Worcester and major cities in Rhode Island. In the Blackstone Valley, Route 126 became Route 16 in the 1930's and served as a major east/west highway. Interstate 84 ran through a portion of southeast Holland.

Many other road improvements during the period ensured that most industrial centers were linked to the regional transportation system by period's end. Traffic congestion had become so heavy in downtown Worcester that regional highways were routed away from the city center area.

An early airfield was developed in Grafton, operating between 1934 and 1954. Other airfields were in Mendon and Southbridge. The Southbridge airport continues in operation today.

**Population**
The percentage of foreign-born in many communities in the region fell sharply as restrictive national immigration laws took effect. In contrast to the previous period, many newcomers chose to settle in rural areas. The French Canadians remained the largest ethnic group in the region, followed by the Italians, other Canadians, Irish, Poles, and Swedes. There were also groups of Lithuanians, Finns, English, Scots, Germans and Greeks. The Black population remained less than one half of one percent in the region.

Worcester remained the region's most populous city, followed by the large industrial towns of Southbridge, Webster, and Northbridge. However, growth in those communities, as well as the industrial towns of Hopedale, Northbridge slowed considerably during the period. Towns with a single manufacturing focus, including Millville and Blackstone, lost significant population numbers.

Even as the region's traditional industrial base began to decline, other businesses began to emerge. New middle class occupations during the period included clerical work, trade and commercial activity.

**Settlement**
There were moderate to low levels of centralized growth in downtown districts. The abrupt decline of the cotton textile industry in the 1920's halted growth in some communities. The most dramatic growth occurred in the rise of suburban towns surrounding urban cores as the street car and the automobile allowed for residential decentralization. The automobile created a new landscape of suburbs, exburbs and commercial strips oriented toward automobiles.

The towns which experienced suburban development during the period included: Grafton, Millbury, Leicester, Oxford, Sturbridge, Mendon, Dudley and Blackstone. The development was driven by adjacent larger communities (Worcester, Southbridge, Milford, Webster, and Woonsocket, Rhode Island) as streetcars or automobiles provided access to these more rural areas. The region's two youngest towns were formed. Millville separated from its parent Blackstone, and incorporated in 1916; East Brookfield split from Brookfield in 1920.

New movie theaters, office buildings and department stores served Worcester's growing population early in the period, as the war economy stimulated the growth of some manufacturing and housing. All classes of housing were built, from high income single family houses in outlying suburbs to three-decker infill apartment buildings in the city's ethnic urban core neighborhoods.

Similar housing development patterns occurred elsewhere in the region. Stylish single family homes, cottages or multi-family dwellings were constructed in defined neighborhood districts communities early in the period. In Whitinsville and Hopedale, the Whitins and the Drapers each planned new subdivisions containing hundreds of houses for their employees in the early 1900's. Fifty years later, the two families would be among the first in the region to plan, promote and build mid-20th century subdivisions of Cape and ranch style homes that would be the staple of middle class home ownership in the post-World War II era.

Throughout the region ethnic congregations continued to build churches, schools, social clubs and synagogues. In particular, Worcester hosted new Roman Catholic and Lutheran churches as well as synagogues. New civic-oriented social groups included the Kiwanis, Lions, Civitan, Propus, and Harmony Clubs. New women's groups included Business and Professional Women, Soroptimists, and Tuesday Lunch. Social clubs included the formation of scout groups for youth, and a range of hobby clubs organized leisure time.

As small business ownership increased and flourished, the owners became more involved in community affairs and politics during the period.

The advent of the streetcar and later the automobile brought continued development of resorts and lakeside cottages in the region. Examples include Mystic Grove at Cranberry Meadow Pond and Glen Cove at Glenecho Lake, both in Charlton, and in Webster on Lake Chargoggagoggmanchaugagogghaubunagungmaugg.

**Economy**

The region's economy initially benefited from the demands of wartime production brought on by World War I. Some industries in the region retooled, built new factories and worker housing to meet the demand, including the Norton company in Worcester. Some textile machine mills, including those owned by the Drapers and the Whitins, retooled their mills, shifting production to weaponry. In Webster, the Slater mills suspended civilian orders at their textile mills in order to fulfill government contracts for the U.S. Army, Navy and the Red Cross.

By 1923, cotton textile production had begun to migrate south as New England's textile factories faced mounting labor problems and rising production costs. Continuing innovation in many industries further reduced the need for skilled labor, especially in the textile and machine production industries. Initially, those industries which manufactured textile machines gained from the new orders from southern textile mills and the retooling of nearby mills in New Bedford and Rhode Island as they attempted to stay competitive. Soon, however, those orders dropped off and the Great Depression brought most of the industrial economy to a standstill.

With the decline of industry in many communities, agriculture remained active, although it lost ground to suburban development. The remaining activity was primarily dairying, poultry-raising, fruit orchards and market gardening. The period just before World War II saw the last big expansion of agricultural complexes, as farmers built large barns to house the increasing dairy herds.

**Landscape Features**
Residential suburbs of single family or multi-family homes on single lots were established in close proximity to new highways and parkways. Urban residential areas were developed along major public transit routes. Both public housing and high style apartment buildings were constructed as multi-story masonry, brick or steel framed apartment blocks. Large institutional complexes (schools, hospitals, corporate institutions) developed during the period were self-contained, multi-unit facilities built on their own landscaped grounds.

Roadside commercial development included period highways with associated bridges, commercial structures such as gas stations, restaurants, diners, shops and roadside advertising. Extant examples include Nap's Diner (1932) in Webster, the Central Diner in Millbury (1933), and diners in Worcester. An Art Deco style drive-in movie theater was built in Sutton. It is no longer in operation, but still visible from Route 146.

Beginning in the 1920's, World War I memorials appeared in parks and civic spaces in many of the region's communities, including Dudley, East Brookfield, Grafton, Uxbridge, Upton, Northbridge, and Worcester.

The Civilian Conservation Corps, created as an employment program during the Great Depression, resulted in the development of some extant landscape features in the region's state forests and parks. Work was done between 1933 and 1940. Three CCC camps were located within the state forests in this region, including Camp S-60 (Company 135) at Brimfield State Forest, Camp S-85 at Douglas State Forest, and Camp SP-25 (Company 2105) at Upton State Forest. These camps, along with other CCC Camps and Companies constructed roads, dams, shelters, picnic pavilions, and other park accessory features. Extant Douglas State Forest features include a picnic pavilion, caretaker's residence and stonework. At Purgatory Chasm in Sutton, extant CCC work includes Purgatory Trail and bridge. At Spencer State Forest in Spencer/Leicester, extant work includes Howe Pond Dam and recreation area, the Headquarters and residence, and a CCC camp site. At Brimfield State Forest, extant CCC work includes roads, work at Dean Pond dam, bridge and pavilion, Woodman Pond dam, and CCC camp and buildings at Dearth Hill pond and dam. Extant work at Upton State Forest includes the park headquarters building and park loop road.

Many of the region's state parks and forests were established during the period, including Brimfield State Forest, Upton State Forest, Douglas State Forest, and Spencer/Leicester State Forest. One 1793 account made reference to a cavern "commonly called Purgatory"[3]. That cavern was recognized for its unique geologic features and purchased by Worcester County in 1919, later to become Purgatory Chasm State Reservation.

During the same period, country clubs and golf clubs were established in Leicester (Hillcrest Country Club, 1919) and Whitinsville (Whitinsville Golf Club, 1923).

The Hurricane of September 21, 1938 was the most destructive storm in the region's recorded history. [4] A week of steady rain before the storm softened soils before the hurricane force winds tore through the region, felling old field pine forests and flooding many of the region's valleys. Caskets from Massachusetts cemeteries were found in Northern Rhode Island after the storm.

With nearly three billion board feet of timber blown down, the fear of fire and the desire to salvage the lumber led foresters to dam many central Massachusetts ponds as storage areas for downed trees. The storm had another effect on trees in that it greatly accelerated the spread of Dutch Elm disease. Those towns and villages whose street elms were spared by the hurricane found themselves removing diseased and dying trees in the decades that followed.

During the period, the Olmsted firm worked on a number of residences in the region. In Grafton, the firm worked for Emma C. Jones (1916-17), in North Grafton for Harry Worcester Smith (date unknown) and for Thomas West in 1945. The firm worked for Millbury Housing between 1949 and 1954. In Oxford, Olmsted worked for Elliott P. Joslin and the Clara Barton Homestead Camp (dates unknown). In Southbridge, the Olmsted firm worked for American Optical, Municipal offices, Southbridge National Bank, Choasse Country Club, and private residences from 1914-1961.

The Olmsted firm continued to work in Worcester until 1952, where there were numerous residential, park and playground commissions. Significant commissions include Worcester Common, Elm Park, Lake Park, Green Hill Park, Worcester Golf Club, Holy Cross College, Worcester Polytechnic Institute. Landscape architect Fletcher Steele worked for Paul B. Morgan of Worcester in 1923.

In the late 1930's, the Wells family of American Optical in Southbridge hired Arthur Shurcliffe to assist with the layout of Quinabaug Village (later Old Sturbridge Village) on a circa 1750 farm they had purchased in Sturbridge. They intended to create "a model village wherein shall be exhibited and carried on for the educational benefit of the public specimens and reproductions of New England architecture and antiquities, the arts, crafts, trades, and callings commonly practiced in and about New England villages prior to the period of industrial expansion"[5]. Quinabaug Village suffered significant destruction during the Hurricane of 1938, and finally opened in 1946, renamed Old Sturbridge Village. It remains an early example of a living history museum in America, still in operation and serving the mission established by the Wells family in the 1930's.

## *VIII Late Modern Period (1940-1980)*

The period began with World War II, and spanned the formative years of a postwar baby boom generation. The period was also marked by the Cold War (1947-1991), the Korean Conflict (1950-1953), the Vietnam War (1957-1975), economic depressions, and the flight of population from urban areas. The automobile established itself as the premier method of transportation as new interstate highways developed across the region. More farmland was lost as new suburbs were created to house returning veterans. Industry saw a shift to emerging technologies of plastics, optics and data circuitry as a new generation of entrepreneurs opened small businesses in the years following World War II. The wire and forge industries maintained steady business, while tourism, service and recreation-oriented businesses gained new ground.

**Transportation**

The interstate highway system continued to expand with the opening of the Massachusetts Turnpike (Interstate 90) in 1956, followed by the Route 495 beltway to the east of the region,

and the Route 395 corridor connecting Worcester to Hartford, Connecticut. Bisecting the state, the Turnpike's only exit in the region was in Sturbridge until the opening of the Route 146 interchange in the late 1990's.

By 1944 an airport was operating in Leicester, but closed by 1970. The Worcester Regional Airport opened in the 1940's and is still trying to establish itself as a major support to Logan Airport in downtown Boston. In Hopedale, the Draper Airport opened in 1950 and still serves small private air traffic. An airport also operated in Oxford.

In Worcester, a tangle of railroad tracks in the city's busy Lincoln Street area was finally rerouted. For the first time, cars did not have to wait at multiple locations in downtown Worcester for freight trains to pass. Passenger train travel in the region came to an end, and many other tracks were paved over or pulled up. Regular commuter rail service between Boston and towns in the region was not re-established until after 1980.

**Population**

Southbridge and Worcester experienced population decline, a reflection of the urban flight common throughout the state and the nation. Worcester's population loss was particularly severe: more than 20% of the residents left the city between 1940 and 1980. In 1980, Worcester's population stood at 161,799, very near what it has been in 1915.

In contrast, most of the towns in the region saw slow but steady growth during the period. Communities that saw some of the biggest proportional increases were the previously rural agricultural communities, including Sutton, Grafton, Charlton and Sturbridge. In a trend continuing from the previous period, those towns immediately outside larger urban centers continued to see growth, including Oxford, Leicester, Millbury and Dudley.

Immigration was low during the period. In most communities, less than five percent of their citizens were foreign born. New immigrants to the region included African Americans from the south, Spanish-speaking Americans from Puerto Rico, Asians and Latin Americans. By 1980, Worcester hosted large Albanian and Lithuanian populations.

**Settlement**

The development of the interstate highway system around the region stimulated rapid residential growth late in the period. In the years following World War II, large farms were subdivided for residential or commercial use. Returning war veterans formed Veterans of Foreign Wars posts, and often constructed buildings for their members.

In 1948, Worcester still operated a 450 acre Home Farm, caring for 350 homeless people, many of whom required nursing care. The farm contained a bakery, gardens, a dairy farm, cannery, and a heating and electric power plant. It was destroyed by the Worcester tornado in 1953.

A growing generation of baby boom children (born between 1946 and 1964) required new schools. Yet, many large mills and institutional buildings from the previous period remained vacant or underutilized. In Hopedale, the 1.3 million square foot Draper Mill closed in 1980 and remains vacant.

The state university system was expanded during the period. The University of Massachusetts Medical center opened in 1962 and Quinsigamond Community College opened in 1963, both in Worcester. In 1972, Tufts University established the Cummings School of Veterinary Medicine on the grounds of the former Grafton State Hospital in Grafton. Becker Junior College merged with Leicester Junior College in the 1970's.

*Tufts Veterinary School at Grafton State Hospital*

**Economy**

The years during World War II were a period of brief revival for the region's industries as government contracts for textiles and other items arrived. A regional recession between 1950 and 1960 resulted in the loss of most of the remaining large manufacturing operations. In Worcester, many 19th century factories were demolished during the 1950's and 1960's to make way for new, modern buildings.

The services economies of transportation, communications, banking, health care, utilities, wholesale/retail sales and insurance experienced growth along with the increase in adjacent suburban development. New jobs were created in areas of government, health, education, and recreation services. Manufacturing centered on appliance components, hand tools, power tool accessories, high performance data conversion circuits for microprocessor systems, fine wire, abrasives, specialty equipment for papermaking machines, and other industrial manufacturing enterprises. In Worcester, innovation continued with the development of oral contraceptives and a hybrid AC/DC converter. In Brimfield, a small annual antiques fair evolved to become one of the largest outdoor antique markets in the country.

Women entered the workforce in increasing numbers as family sizes became smaller and the depressed wage scale of the period required additional income.

**Landscape Features**

Changing expectations about work and leisure time during the period gave more people time for outdoor recreation. Golf courses, campgrounds, and country clubs were built, including Clearview Country Club in Millbury (1949), Hopedale Country Club in Hopedale (1950's), Bay Path Golf Course in East Brookfield (1961), Edgewood Golf Club in Uxbridge (1963), Heritage Country Club in Charlton (1964), and Pine Ridge Country Club in North Oxford (1969).

Many small ski areas were in operation between the late 1930's and the early 1970's. Blackstone, Hopedale, Grafton, Worcester, Leicester, Dudley, Oxford, and Uxbridge all hosted slopes in public parks, back yards, golf courses, or on college campuses.[6]

On June 9, 1953, the Worcester Tornado touched down in the northern part of the city. Hundreds of homes, schools and businesses were damaged or destroyed; 91 people were left dead and thousands were injured. The Worcester Home Farm was ruined. The damage at Assumption College was significant, causing the college to relocate its campus to its present location on Salisbury Street. Quinsigamond Community College later took over Assumption's campus.

In 1955, Hurricane Diane was the latest in a series of hurricanes to cause devastating flood damage in the region. In response, the Army Corps of Engineers constructed a series of flood control structures on the Blackstone, the Quinebaug, and the Little River between 1959 and 1962, including West Hill Dam in Uxbridge, Westville Lake Dam in Southbridge and Sturbridge, and East Brimfield Dam in Fiskdale (Sturbridge), the Hodges Village Dam in Oxford and Buffumville Lake Dam in Charlton. In some cases, the dams replaced the work previously performed by mills on the rivers in controlling floodwaters.

As the period wore on, the environmental movement gained ground, resulting in the protection of more open space in the region. Organizations with old roots in Massachusetts developed new properties. The Massachusetts Audubon Society (1896) established Broad Meadow Brook in Worcester and Pierpont Meadow in Dudley. The Trustees of Reservations acquired Tantiusques in Sturbridge and Quinebaug Woods in Holland. In addition, state government continued to acquire land under the auspices of the State Park system and the Division of Fisheries and Wildlife. New properties included Wells State Park in Sturbridge, and Wildlife Management Areas at Breakneck Brook in Holland, McKinstry Brook in Sturbridge/Southbridge and Bennet Meadows in Charlton. Long distance hiking trails traversed the region as well. The Mid-State trail was firmly established during the 1970's and 1980's, following a path from New Hampshire south through various towns, along Leicester's western boundary into Charlton, Oxford and Douglas and on into Connecticut. The Southern New England Trunk Line Trail is on a former railroad line running east-west route across the towns of Blackstone, Millville, Uxbridge and Douglas.

Landscape architect Fletcher Steele continued to practice in Worcester, working on the Robert and Helen Stoddard property in 1946, and the Science Museums in 1965.

## *IX Conclusion*

The Blackstone Valley and Quinebaug-Shetucket Rivers Valley Heritage Corridors host remarkably similar natural, historic and cultural landscapes. Both Heritage Corridors are characterized by fields, hills, forests, streams, and rivers which influenced the siting of early farms, towns, and mill villages. From those early settlement patterns and landscape features, the Blackstone and Quinebaug-Shetucket Valleys developed strong regional identities. Farms and hilltop towns evolved into areas prized for their scenic and historic qualities. Mill villages and urban centers sited along the region's rivers tell the story of the American Industrial Revolution.

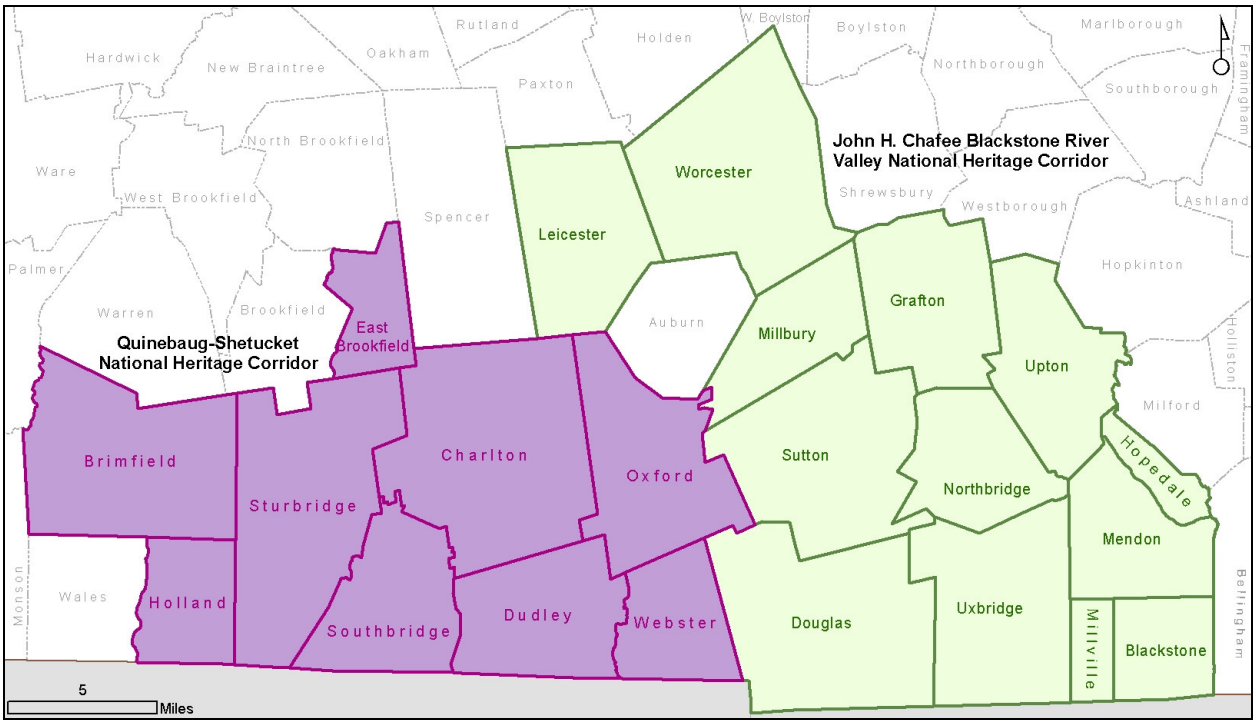
Just as the Blackstone Valley and Quinebaug-Shetucket Valley's many textile mills once wove together warp and weft, so too, the region's communities are woven together by a shared history of human activity that begins with the Nipmuc, whose various tribes appear to have lived in and used the region's natural resources in similar ways. The first colonial settlers, despite coming to the valleys from different directions, established virtually identical settlement patterns consisting of early mill sites and agricultural farmsteads. Both regions experienced early economic success as a result of agricultural production and market activity in towns such as Sutton, Mendon, Sturbridge, and Oxford. Transportation developments along the post roads spurred similar growth in Brimfield and Sutton. As the Industrial Revolution dawned on the Blackstone River, technological advances in mill manufacturing and mill village development patterns in Northbridge and Blackstone quickly made their way to the Quinebaug-Shetucket Valley towns of Webster and Southbridge. The wealth brought by industrial production changed the region's cultural landscape as successive waves of industrialists and immigrants built churches, schools, houses, and social institutions. As Worcester developed into a dense urban industrial center in the north, a smaller, but equally diverse industrial/commercial center developed to the south in Southbridge/Webster. Both the Blackstone and Quinebaug-Shetucket Valleys suffered from the effects of the Great Depression and the post World War II urban flight that has altered the character of many earlier settlement patterns.

Regional similarities exist in the patterns of settlement, architectural styles, and industrial production. The numerous inventions and patents developed in the region sustained the rise of industrial manufacturing, increased the efficiency and productivity of agriculture, and made possible the intensive development of mill villages, town centers and urban communities. The region's Native Americans, yeoman farmers, and industrialists have left a rich tapestry of place names, farm fields, orchards, mill villages and urban streetscapes. The Civilian Conservation Corps, The Olmsted Firm, Warren H. Manning, and Arthur Shurcliff all shaped landscapes in both the Blackstone and Quinebaug-Shetucket Valleys. Other artists, designers and architects, known and unknown, have left their mark on the region's buildings, monuments and parks.

As development continues to occur in the Blackstone Valley and Quinebaug-Shetucket Valley Heritage Corridor communities, rapid change is altering earlier cultural landscape features. While changing patterns of settlement, immigration and transportation are clearly an aspect of the region's cultural history, some of the most treasured character-defining features may soon be lost, as low density suburban housing and commercial development continue to replace agricultural landscapes. Historic town centers and mill villages are facing renovation, demolition and redevelopment. The character of scenic byways is changing as new commercial development takes hold along rural and state numbered roads.

In the Blackstone Valley, a great deal of recent development has already altered the character of some communities, and steps are being taken to manage future growth in a variety of ways. Partnerships between public and private organizations have aided in the protection of heritage landscapes through zoning bylaws, preservation restrictions, open space acquisition, and planning for smart growth. In the Quinebaug-Shetucket Valley, it appears that the next era of growth is just beginning to impact the region's remaining open space, mill villages, historic town centers and roads. An important task remains to identify and document the region's heritage

landscapes so that every community's character-defining natural, historic and cultural features will be incorporated into future Smart Growth planning initiatives.




Map of the Massachusetts communities within the Blackstone River Valley National Heritage Corridor and the Quinebaug-Shetucket National Heritage Corridor.

***endnotes***

[1] www.thetrustees.org/pages/368_tantiusques.cfm
[2] Interview with Ranger Chuck Arning, Blackstone Heritage Corridor Commission. June 22, 2006
[3] Whitney, Peter Worcester County, America's First Frontier, Isaiah Thomas, Worcester, MA 1793 p. 97.
[4] Foster, Charles H.W., ed. Stepping Back to Look Forward, A History of the Massachusetts Forest. Harvard University Press,1998. p. 49
[5] www.osv.org/history
[6] www.nelsap.org/ma/ma

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